

WSM

WORKSHOP MANUAL
TRACTOR

L2800, L3400

Kubota

TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the mechanism, service and maintenance of L2800 and L3400. It is divided into three parts, "General", "Mechanism" and "Servicing".

■ General

Information on the tractor identification, the general precautions, maintenance check list, check and maintenance and special tools are described.

■ Mechanism

Information on the construction and function are included. This part should be understood before proceeding with troubleshooting, disassembling and servicing.

Refer to Diesel Engine / Tractor Mechanism Workshop Manual (Code No. 9Y021-01874 / 9Y021-18201) for the one which has not been described to this workshop manual.

■ Servicing

Information on the troubleshooting, servicing specification lists, tightening torque, checking and adjusting, disassembling and assembling, and servicing which cover procedures, precautions, factory specifications and allowable limits.

All information illustrations and specifications contained in this manual are based on the latest product information available at the time of publication.

The right is reserved to make changes in all information at any time without notice.

Due to covering many models of this manual, information or picture being used have not been specified as one model.

January 2004

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SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully.

It is essential that you read the instructions and safety regulations before you attempt to repair or use this unit.



DANGER

: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

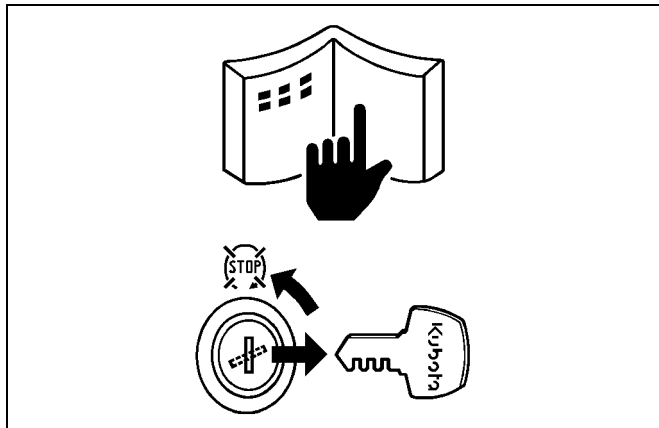
: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

■ IMPORTANT

: Indicates that equipment or property damage could result if instructions are not followed.

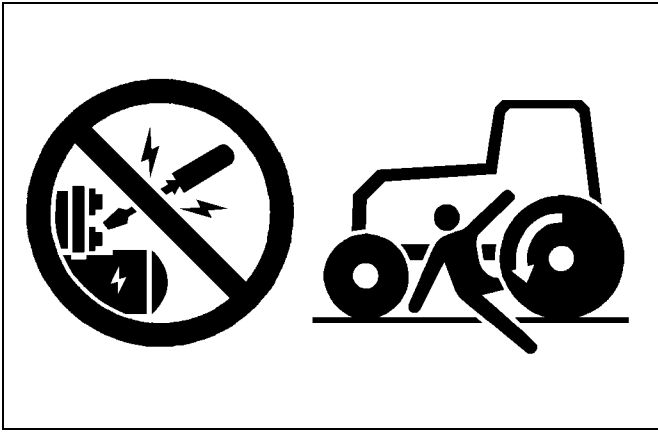
■ NOTE

: Gives helpful information.



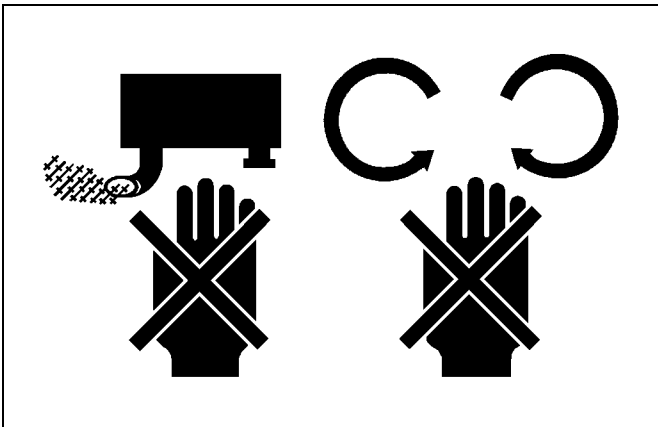
BEFORE SERVICING AND REPAIRING

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a firm and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, and remove the key.
- Disconnect the battery negative cable.
- Hang a "DO NOT OPERATE" tag in operator station.



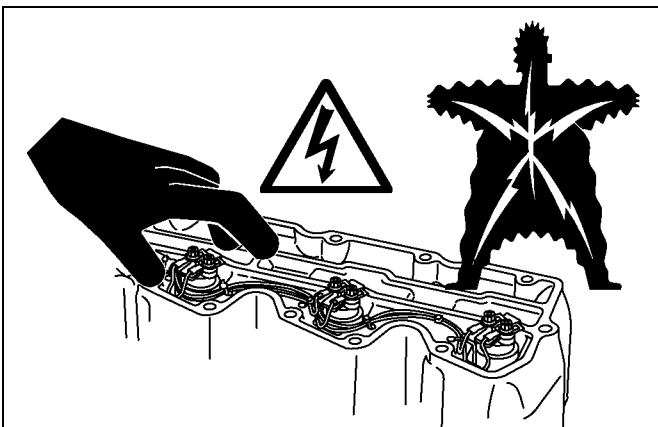
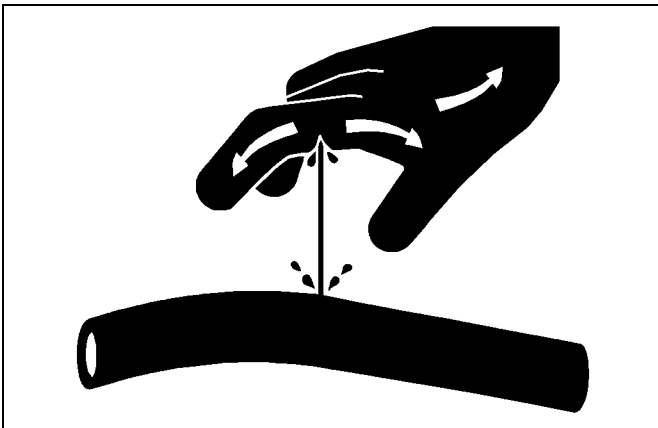
SAFETY STARTING

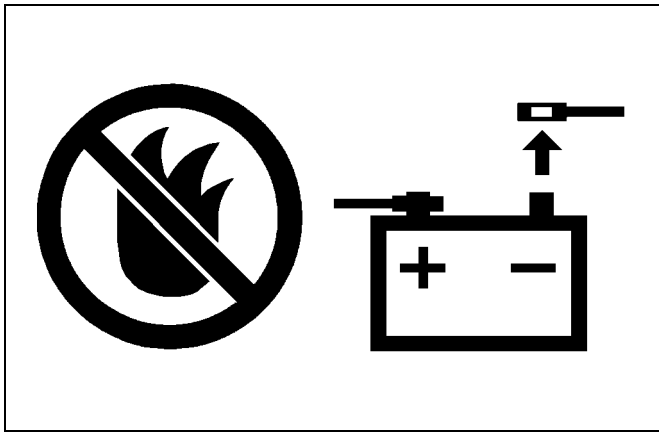
- Do not start the engine by shorting across starter terminals or bypassing the safety start switch.
- Do not alter or remove any part of machine safety system.
- Before starting the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Never start the engine while standing on ground. Start the engine only from operator's seat.



SAFETY WORKING

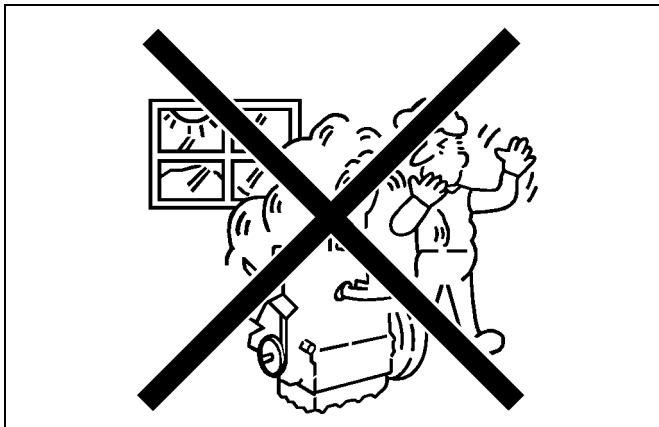
- Do not work on the machine while under the influence of alcohol, medication, or other substances or while fatigued.
- Wear close fitting clothing and safety equipment appropriate to the job.
- Use tools appropriate to the work. Makeshift tools, parts, and procedures are not recommended.
- When servicing is performed together by two or more persons, take care to perform all work safely.
- Do not work under the machine that is supported solely by a jack. Always support the machine by safety stands.
- Do not touch the rotating or hot parts while the engine is running.
- Never remove the radiator cap while the engine is running, or immediately after stopping. Otherwise, hot water will spout out from radiator. Only remove radiator cap when cool enough to touch with bare hands. Slowly loosen the cap to first stop to relieve pressure before removing completely.
- Escaping fluid (fuel or hydraulic oil) under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or fuel lines. Tighten all connections before applying pressure.
- Do not open high-pressure fuel system. High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt to repair fuel lines, sensors, or any other components between the high-pressure fuel pump and injectors on engines with high pressure common rail fuel system.
- High voltage exceeding 100 V is generated in the ECU and injector. Pay sufficient caution to electric shock when performing work activities.





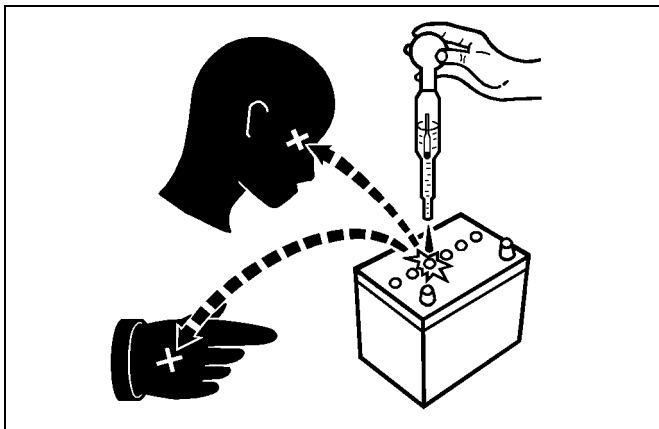
AVOID FIRES

- Fuel is extremely flammable and explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.
- To avoid sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- Battery gas can explode. Keep sparks and open flame away from the top of battery, especially when charging the battery.
- Make sure that no fuel has been spilled on the engine.



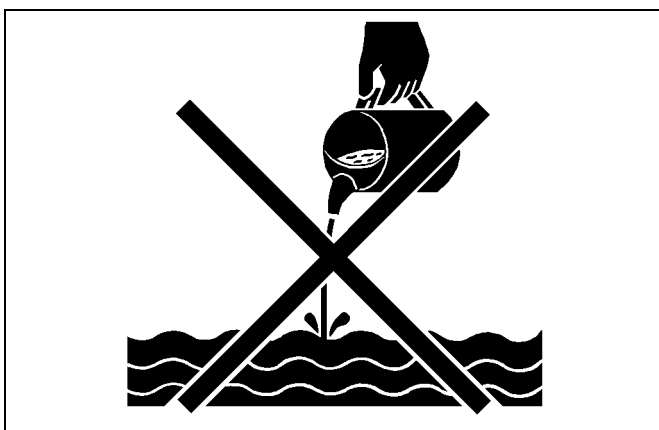
VENTILATE WORK AREA

- If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.



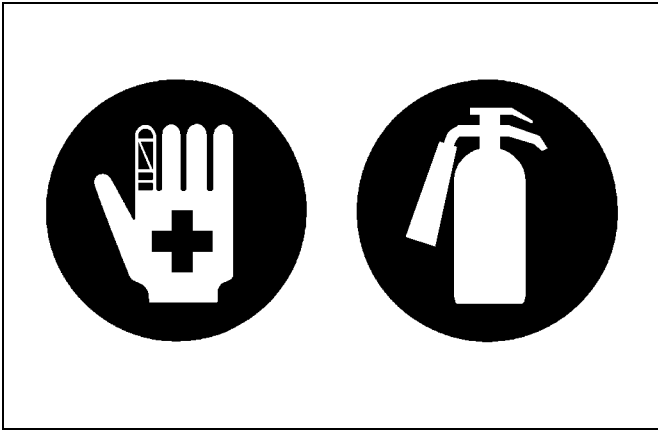
PREVENT ACID BURNS

- Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, clothing and cause blindness if splashed into eyes. Keep electrolyte away from eyes, hands and clothing. If you spill electrolyte on yourself, flush with water, and get medical attention immediately.



DISPOSE OF FLUIDS PROPERLY

- Do not pour fluids into the ground, down a drain, or into a stream, pond, or lake. Observe relevant environmental protection regulations when disposing of oil, fuel, coolant, electrolyte and other harmful waste.

**PREPARE FOR EMERGENCIES**


- Keep a first aid kit and fire extinguisher handy at all times.
- Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

SAFETY DECALS



The following safety decals are installed on the machine.

If a decal becomes damaged, illegible or is not on the machine, replace it. The decal part number is listed in the parts list.


(1) Part No. TA040-4965-2

	<p style="text-align: center;">⚠ DANGER</p> <p>TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.</p> <ol style="list-style-type: none"> 1. Do not start engine by shorting across starter terminals or bypassing the safety start switch. Machine may start in gear and move if normal starting circuitry is bypassed. 2. Start engine only from operator's seat with transmission and PTO OFF. <p style="text-align: center;">Never start engine while standing on the ground.</p>
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(4) Part No. TA040-4956-2
Diesel fuel only. No fire

	
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(2) Part No. TA040-4959-3

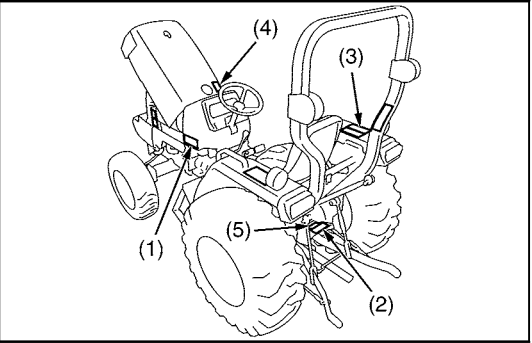
	<p style="text-align: center;">⚠ WARNING</p> <p>TO AVOID PERSONAL INJURY.</p> <ol style="list-style-type: none"> 1. Keep PTO shield in place at all times. 2. Do not operate the PTO at speeds faster than the speed recommended by the implement manufacturer. 3. For trailing PTO-driven implements, set drawbar at towing position (see operator's manual).
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(5) Part No. TA040-4935-1


<p style="text-align: center;">⚠ WARNING</p> <p>TO AVOID PERSONAL INJURY:</p> <ol style="list-style-type: none"> 1. Attach pulled or towed loads to the drawbar only. 2. Use the 3-point hitch only with equipment designed for 3-point hitch usage.
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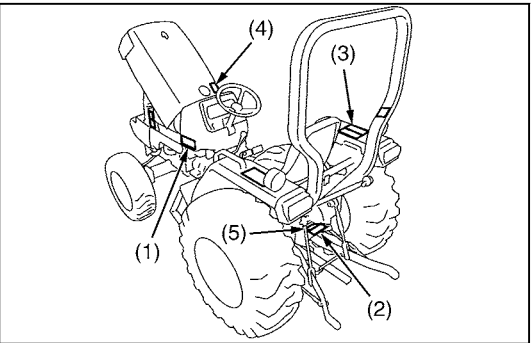
(3) Part No. TA140-4933-1 [Manual Transmission type]

<p>⚠ WARNING</p> 	<p>BEFORE DISMOUNTING TRACTOR:</p> <ol style="list-style-type: none"> 1. ALWAYS SET PARKING BRAKE. 2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope. 3. LOWER ALL IMPLEMENTS TO THE GROUND. Failure to comply to this warning may allow the wheels to slip, and could cause injury or death. 4. LOCK SHUTTLE SHIFT LEVER IN NEUTRAL POSITION AND STOP THE ENGINE.
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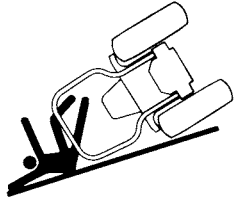


(3) Part No. TA240-4933-2 [HST type]




<p>⚠ WARNING</p> 	<p>BEFORE DISMOUNTING TRACTOR:</p> <ol style="list-style-type: none"> 1. ALWAYS SET PARKING BRAKE. Leaving transmission in gear with the engine stopped will not prevent tractor from rolling. 2. PARK ON LEVEL GROUND WHENEVER POSSIBLE. If parking on a slope, position tractor across the slope. 3. LOWER ALL IMPLEMENTS TO THE GROUND. Failure to comply to this warning may allow the wheels to slip, and could cause injury or death. 4. STOP THE ENGINE.
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(1) Part No. TA040-4932-2 [Rigid ROPS type]

 WARNING	<p>TO AVOID PERSONAL INJURY OR DEATH FROM ROLL-OVER:</p> <ol style="list-style-type: none"> 1. Kubota recommends the use of a Roll-Over Protective Structures (ROPS) and seat belt in almost all applications 2. Remove the ROPS only when it substantially interferes with operation or itself presents a safety risk. (Examples include work in orchards and vineyards) ALWAYS REINSTALL IT BEFORE USING THE TRACTOR IN OTHER APPLICATIONS 3. Never use just the seat belt or just the ROPS. They must be used together. For further details, consult your Operator's Manual or your local dealer
	



(2) Part No. TA240-9848-1 [Foldable ROPS type]

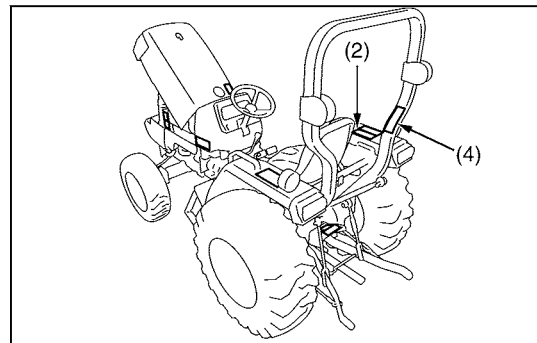
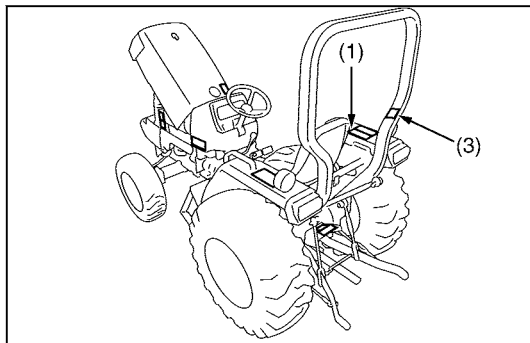
 WARNING	<p>TO AVOID INJURY OR DEATH FROM ROLL-OVER:</p> <ul style="list-style-type: none"> • Keep Roll-Over Protective Structures (ROPS) in the upright and locked position • Fasten SEAT BELT before operating <p>THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION:</p> <ul style="list-style-type: none"> • Check the operating area and fold the ROPS only when absolutely necessary • Do not wear SEAT BELT if ROPS is folded • Raise and lock ROPS as soon as vertical clearance allows • Read ROPS related instructions and warnings
	
	

(3) Part No. 6C140-4746-1 [Rigid ROPS type]

 WARNING
<p>TO AVOID PERSONAL INJURY:</p> <p>Do not modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.</p>

(4) Part No. 3A111-9544-1 [Foldable ROPS type]

 WARNING
<p>Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.</p>
 CAUTION
<p>TO AVOID INJURY WHEN RAISING OR FOLDING ROPS:</p> <ul style="list-style-type: none"> • Set parking brake and stop engine. • Remove any obstruction that may prevent raising or folding of the ROPS. • Do not allow any bystanders. • Always perform function from a stable position at the rear of the tractor. • Hold the top of the ROPS securely when raising or folding. • Make sure all pins are installed and locked.



CARE OF DANGER, WARNING AND CAUTION LABELS

1. Keep danger, warning and caution labels clean and free from obstructing material.
2. Clean danger, warning and caution labels with soap and water, dry with a soft cloth.
3. Replace damaged or missing danger, warning and caution labels with new labels.
4. If a component with danger, warning or caution label(s) affixed is replaced with new part, make sure new label(s) is (are) attached in the same location(s) as the replaced component.
5. Mount new danger, warning and caution labels by applying on a clean dry surface and pressing any bubbles to outside edge.

3TLAAABCP011A

SPECIFICATIONS

Model		L2800		L3400		
		2WD	4WD	4WD	4WD	
PTO power		17.9 kW (24.0 HP)		21.6 kW (29.0 HP)		
Engine	Maker	KUBOTA				
	Model	D1403-M-E2A		D1703-MA-E2A		
	Type	Vertical, water-cooled, 4-cycle diesel				
	Number of cylinders	3		3		
	Bore and stroke	80 × 92.4 mm (3.1 × 3.6 in.)		87 × 92.4 mm (3.4 × 3.6 in.)		
	Total displacement	1.393 L (85.0 cu.in.)		1.647 L (101.0 cu.in.)		
	Engine gross power	21.6 kW (29.0 HP)		25.9 kW (34.7 HP)		
	Rated revolution	46.7 rps (2800 min ⁻¹ (rpm))		45.0 rps (2700 min ⁻¹ (rpm))		
	Maximum torque	89.2 N·m (65.8 ft-lbs)		108.6 N·m (80.1 ft-lbs)		
	Battery	12 V. RC : 123 min, CCA : 490 A				
	Fuel	Diesel fuel No. 2-D				
Capacities	Fuel tank	34.0 L (9.0 U.S.gals)				
	Engine crankcase (with filter)	5.7 L (6.0 U.S.qts)				
	Engine coolant	6.0 L (6.3 U.S.qts)				
	Transmission case	27.0 L (7.1 U.S.gals)	27.5 L (7.3 U.S.gals)	27.0 L (7.1 U.S.gals)	27.5 L (7.3 U.S.gals)	
Dimensions	Overall length (without 3P)	2810 mm (110.6 in.)	2705 mm (106.5 in.)	2810 mm (110.6 in.)	2705 mm (106.5 in.)	
	Overall width (minimum tread)	1305 mm (51.4 in.)				
	Overall height (with ROPS)	2160 mm (85.0 in.)				
	Overall height (Top of steering wheel)	1475 mm (58.1 in.)				
	Wheel base	1610 mm (63.3 in.)				
	Min.ground clearance	345 mm (13.6 in.)	340 mm (13.4 in.)	345 mm (13.6 in.)	340 mm (13.4 in.)	
	Tread	Front 1050 mm (41.3 in.)	1095 mm (43.1 in.)	1050 mm (41.3 in.)	1095 mm (43.1 in.)	
	Rear	1290 mm (50.8 in.)				
Weight (with ROPS)		1070 kg (2359 lbs)	1150 kg (2536 lbs)	1090 kg (2403 lbs)	1170 kg (2580 lbs)	
Clutch		Dry type single stage		Dry type dual stage		
Traveling system	Tires	AG Front	5.00 - 15	7.00 - 16	5.00 - 15	7.00 - 16
		AG Rear	11.2 - 24			
	Indust. (option) Front / Rear	–	27 × 8.50 - 15 / 15 - 19.5R4	–	27 × 8.50 - 15 / 15 - 19.5R4	
	Steering	Integral type power steering				
	Transmission	Gear shift, 8 forward and 4 reverse				
	Brake	Wet disk type				
Min. turning radius (with brake)		2.4 m (7.9 feet)				

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(continued)

Model		L2800		L3400		
		2WD	4WD	4WD	4WD	
Hydraulic unit	Hydraulic control system	Position control				
	Pump capacity (main)	24.7 L/min (6.5 gal/min)		23.9 L/min (6.3 gal/min)		
	Pump capacity (PS)	15.0 L/min (4.0 gal/min)		14.5 L/min (3.8 gal/min)		
	Three point hitch	Category 1				
	Max. lift force	At lift points	906 kg (1998 lbs)			
		24 in. behind lift points	651 kg (1435 lbs)			
	System pressure	15.7 MPa (160 kgf/cm ²)				
PTO	Rear PTO	SAE 1-3/8, 6-splines (with overrunning clutch on single clutch tractor)				
	PTO / Engine speed	540 / 2430 min ⁻¹ (rpm)		540 / 2425 min ⁻¹ (rpm)		

NOTE: *Manufacture's estimate

The company reserves the right to change the specifications without notice.

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Model		L2800		L3400	
		4WD HST		4WD HST	
PTO power*		16.8 kW (22.5 HP)		20.5 kW (27.5 HP)	
Engine	Maker	KUBOTA			
	Model	D1403-M-E2A		D1703-MA-E2A	
	Type	Indirect injection, Vertical, Water-cooled 4 cycle diesel			
	Number of cylinders	3			
	Bore and stroke	80 × 92.4 mm (3.1 × 3.6 in.)		87 × 92.4 mm (3.4 × 3.6 in.)	
	Total displacement	1.393 L (85.0 cu.in.)		1.647 L (101.0 cu.in.)	
	Engine gross power*	21.6 kW (29.0 HP)		25.9 kW (34.7 HP)	
	Engine net power*	20.5 kW (27.5 HP)		24.8 kW (33.3 HP)	
	Rated revolution	46.7 rps (2800 min ⁻¹ (rpm))		45.0 rps (2700 min ⁻¹ (rpm))	
	Maximum torque	89.2 N·m (65.8 ft-lbs)		108.6 N·m (80.1 ft-lbs)	
	Battery	12 V. RC : 123 min, CCA : 490 A			
	Fuel	Diesel fuel No. 1-D, No. 2-D			
Capacities	Fuel tank	34.0 L (9.0 U.S.gals)			
	Engine crankcase (with filter)	5.7 L (6.0 U.S.qts)			
	Engine coolant	6.0 L (6.3 U.S.qts)			
	Transmission case	23.5 L (6.2 U.S.gals)		23.5 L (6.2 U.S.gals)	
Dimensions	Overall length (with 3P)	2705 mm (106.5 in.)		2705 mm (106.5 in.)	
	Overall width (minimum tread)	1305 mm (51.4 in.)			
	Overall height (with ROPS)	2160 mm (85.0 in.)			
	Overall height (Top of steering wheel)	1475 mm (58.1 in.)			
	Wheel base	1610 mm (63.3 in.)			
	Min.ground clearance	340 mm (13.4 in.)		340 mm (13.4 in.)	
	Tread	Front	1095 mm (43.1 in.)		1095 mm (43.1 in.)
Rear		1020 mm (40.2 in.), 1115 mm (43.8 in.), 1195 mm (47.1 in.), 1290 mm (50.8 in.)			
Weight (with ROPS)		1180 kg (2600 lbs)		1180 kg (2600 lbs)	
Traveling system	Tires	AG Front	7.00 - 16		7.00 - 16
		AG Rear	11.2 - 24		
	Indust. (option) Front / Rear	27 × 8.50 - 15 / 15 - 19.5R4		27 × 8.50 - 15 / 15 - 19.5R4	
	Clutch	Dry type single stage			
	Steering	Integral type power steering			
	Transmission	Hydrostatic transmission, 3 range speed			
	Brake	Wet disk type			
Min. turning radius (with brake)	2.5 m (8.2 feet)				

(Continued)

Model		L2800	L3400	
		4WD HST	4WD HST	
Hydraulic unit	Hydraulic control system		Position control	
	Pump capacity (main)		24.7 L/min (6.5 gal/min) 23.9 L/min (6.3 gal/min)	
	Pump capacity (PS)		15.0 L/min (4.0 gal/min) 14.5 L/min (3.8 gal/min)	
	Three point hitch		Category 1	
	Max. lift force	At lift points	906 kg (1998 lbs)	
		24 in. behind lift points	651 kg (1435 lbs)	
System pressure		15.7 MPa (160 kgf/cm ²)		
PTO	Rear PTO	PTO shaft size	SAE 1-3/8, 6-splines	
		Type	Live-continuous with overrunning clutch Live-continuous with overrunning clutch	
	PTO / Engine speed		540 / 2580 min ⁻¹ (rpm) 540 / 2580 min ⁻¹ (rpm)	

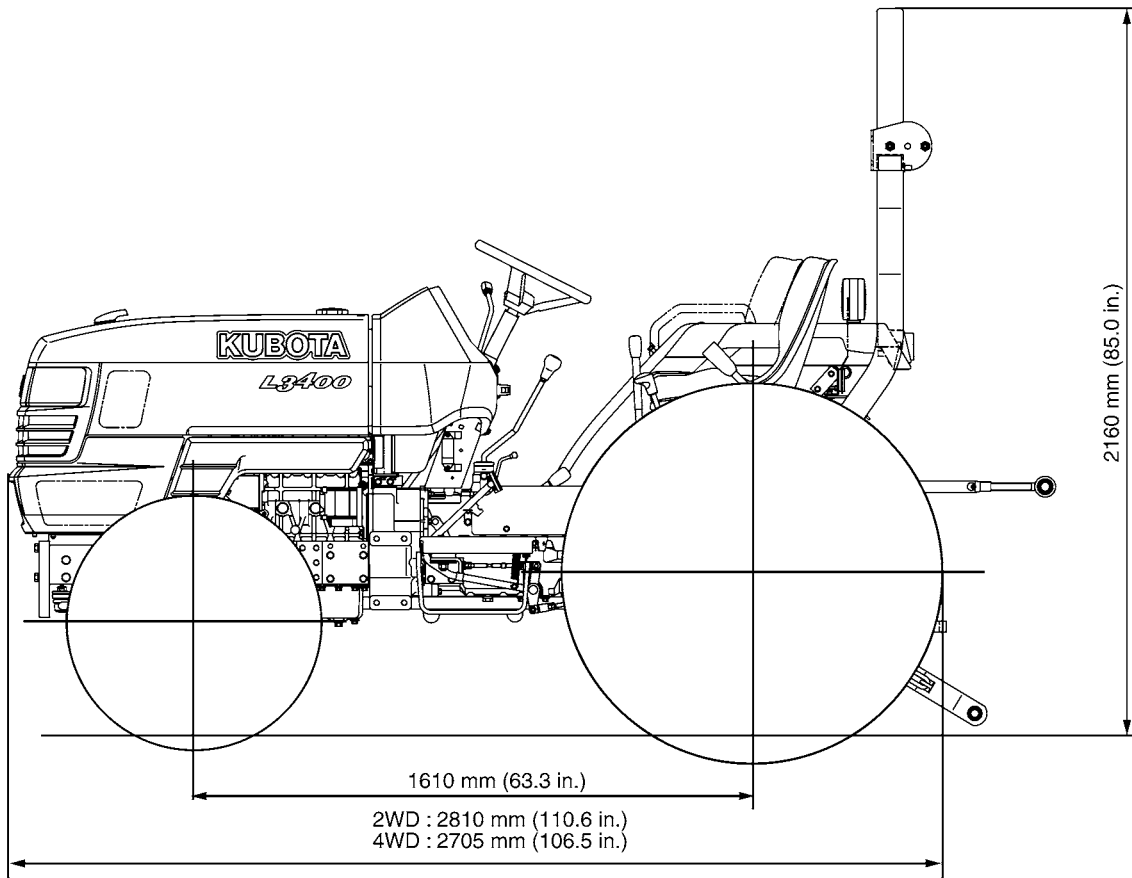
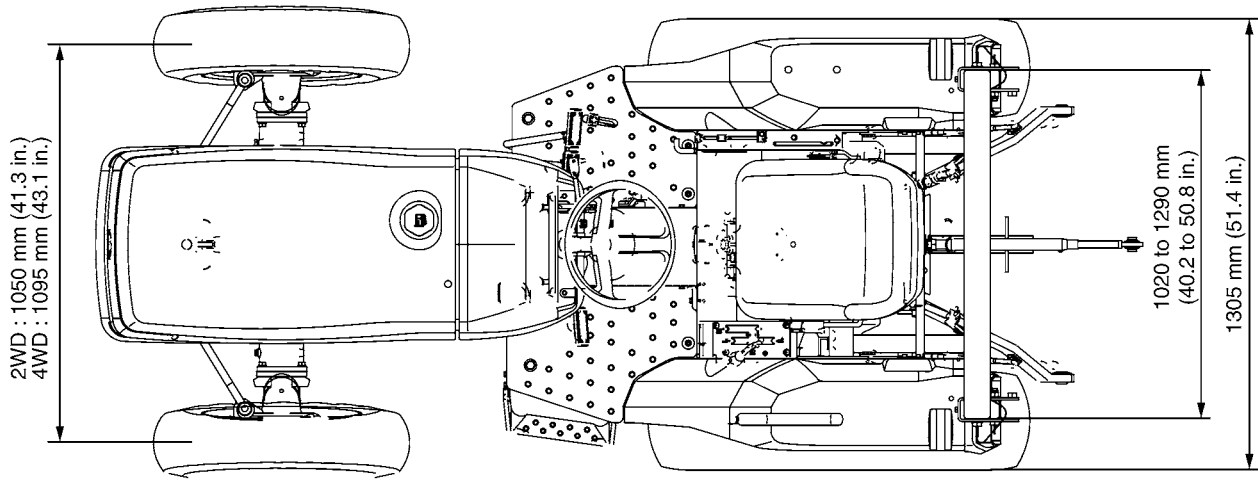
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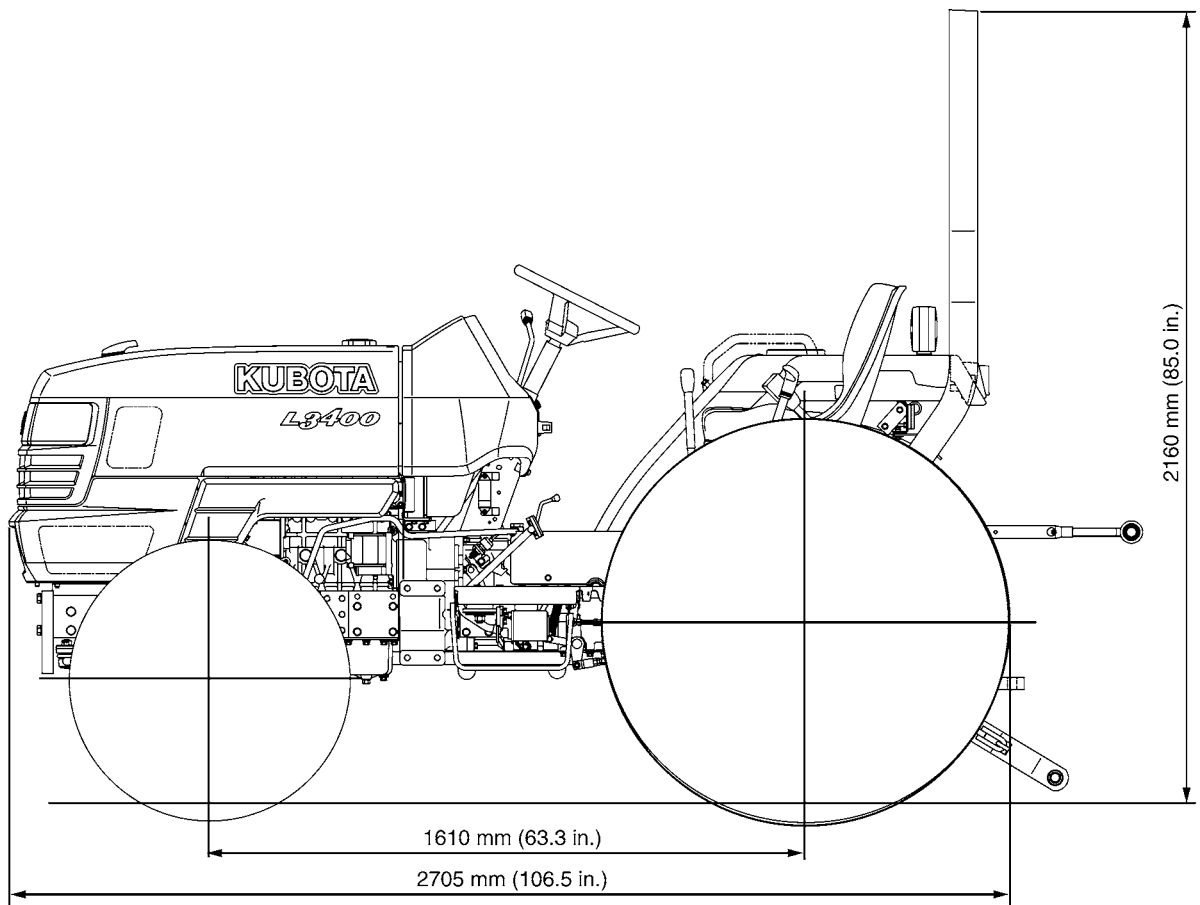
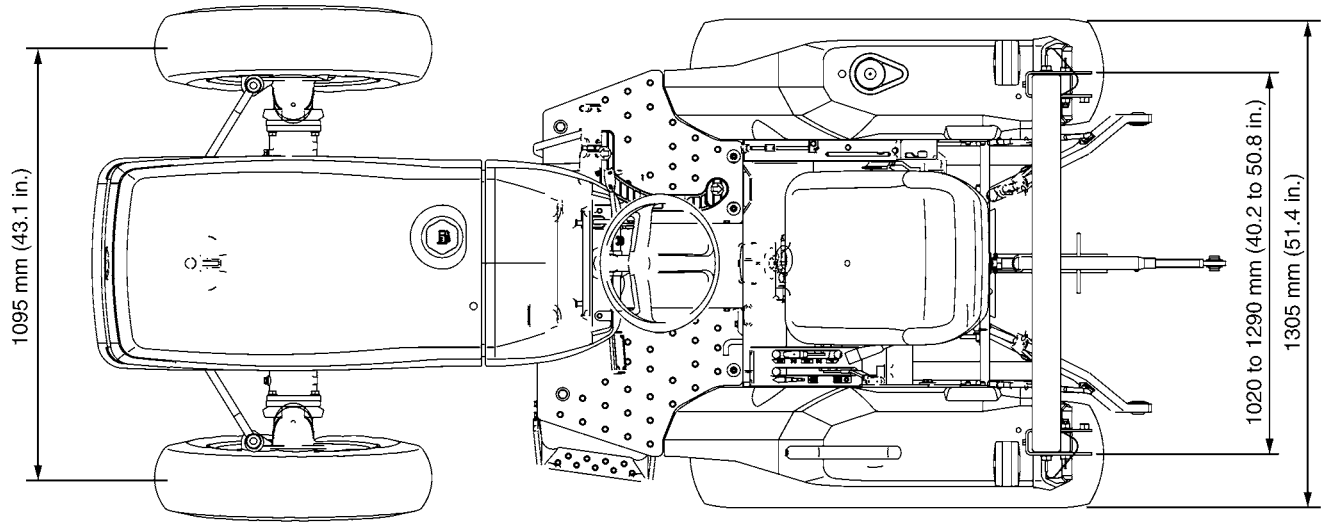
DIMENSIONS

L2800 · L3400 [Manual Transmission Type]



3TLAAABFP003A

L2800 · L3400 [HST Type]



3TLAABFP002A

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